

WHAT IS CLAIMED IS:

1. A non-contact IC card for communicating data with a reader/writer in a contactless manner, said non-contact IC card comprising:

encryption means having a public key encryption processor for performing a public key encryption operation, and a common key encryption processor for performing a common key encryption operation; and

frequency control means for changing an operation frequency of the non-contact IC card so that communication with the reader/writer and the encryption operations performed by the encryption means are carried out at different operation frequencies.

2. A non-contact IC card according to claim 1, wherein hardware of the encryption means which is not required for the public key encryption operation is not operated during the public key encryption operation, and hardware of the encryption means which is not required for the common key encryption operation is not operated during the common key encryption operation.

3. A non-contact IC card according to claim 1, wherein a hardware unit having an identical function is shared

between the public key encryption processor and the common key encryption processor, and the shared hardware unit is switched in a time-shared manner according to the operation mode.

4. A non-contact IC card according to claim 1, wherein a clock gear is used to change the operation frequency.

5. A non-contact IC card according to claim 1, wherein a frequency divider is used to change the operation frequency.

6. A non-contact IC card according to claim 1, wherein the duty factor of an enable signal is controlled to change the operation frequency.

7. A non-contact IC card according to claim 1, wherein the operation frequency is changed based on a control signal from the reader/writer.